

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) An apparatus for hemodialysis, hemodiafiltration, hemofiltration or peritoneal dialysis, ~~the apparatus~~ comprising at least one conduit ~~(10, 14)~~ in which a dialysis and/or infusion fluid is intended to flow, ~~the apparatus~~ comprising a measurement unit ~~(48)~~ for measuring at least one substance in said fluid, ~~characterised in that said substance that is to be measured is an~~ being optically active ~~substance~~, wherein the measurement unit ~~(48)~~ is arranged to measure the concentration of said substance in said fluid by measuring the influence of said substance ~~in the fluid has~~ on a ~~polarised~~ polarized beam of light ~~which is transmitted through said fluid.~~

2. (Currently Amended) An apparatus according to claim 1, ~~including further comprising~~ a plurality of inlets ~~(26, 28, 30, 32)~~ for different matters, ~~wherein the apparatus is arranged such that the~~ said different matters being mixed with each other after being introduced via said inlets ~~(26, 28, 30, 32)~~ ~~will be mixed with each other in said apparatus~~, wherein the measurement unit ~~(48)~~ is ~~positioned in or at said apparatus such that~~ configured to measure the concentration of said substance in said fluid ~~is measured before the fluid has obtained its final form in the apparatus by being~~ is mixed with all the other different matters introduced via said inlets ~~(26, 28, 30, 32)~~.

3. (Currently Amended) An apparatus according to claim 2, wherein said plurality of inlets ~~(26, 28, 30, 32)~~ include a first inlet ~~(32)~~ for introducing ~~via which the fluid to be measured is to be introduced into the apparatus, wherein the~~ said measurement unit ~~(48)~~ is being ~~positioned in or at the apparatus such that~~ configured to

measure the concentration of said substance in said fluid ~~is measured~~ before said fluid, that is introduced via said first inlet (32), ~~has been~~ is mixed in the apparatus with any other ~~different matters~~ matter introduced via ~~the other (26, 28, 30)~~ another of said plurality of inlets.

4. (Currently Amended) An apparatus according to ~~any of the preceding claims~~ claim 1, wherein said measurement unit is designed to measure a concentration of said substance ~~that is~~ above 100\_g/l.

5. (Currently Amended) An apparatus according to ~~any of the preceding claims~~ claim 1, wherein said measurement unit is designed to measure the concentration of a sugar in said fluid.

6. (Currently Amended) An apparatus according to claim 5, wherein said sugar is glucose.

7. (Currently Amended) An apparatus according to ~~any of the preceding claims~~ claim 1, ~~including~~ further comprising means (38) arranged to generate a warning signal if the measured concentration of said substance in said fluid does not ~~fulfil~~ fulfill a predetermined requirement.

8. (Currently Amended) An apparatus according to ~~any of the preceding claims~~ claim 1, ~~including~~ further comprising an at least partly transparent conduit (50) in said apparatus or at an inlet (32) to said apparatus, ~~through which~~ said transparent conduit (50) being configured to carry the fluid to be measured ~~is to pass~~, wherein said measurement unit (48) is ~~positioned and arranged~~ configured to produce a ~~polarised~~ polarized beam of light that is passed through the fluid to be measured at said at least partly transparent conduit (50).

9. (Currently Amended) An apparatus according to ~~any of the preceding claims~~ claim 1, wherein said measurement unit (48) is arranged to provide a plane-~~polarised~~ polarized beam of light.

10. (Currently Amended) An apparatus according to claim 9, wherein said measurement unit (48) ~~is arranged with measurement~~ further comprises means (38, 64, 66) that a measurement device to measure an entity, said entity indicating that indicates ~~with which the angle at which~~ the plane of ~~polarisation~~ polarization of said ~~polarised~~ polarized beam of light has rotated when said ~~polarised~~ polarized beam of light has passed through the fluid.

11. (Currently Amended) An apparatus according to claim 10, wherein said measurement ~~means (38, 64, 66)~~ device comprises a light intensity detector.

12. (Currently Amended) A system comprising an apparatus according to ~~any of the preceding claims~~ claim 1, further comprising and a container (39) including housing a fluid, wherein the container (39) is connected to the apparatus ~~such that to~~ allow the fluid housed in the container (39) ~~is to be~~ fed to the apparatus, and wherein said measurement unit (48) is arranged to measure the concentration of said substance in the fluid fed from the container (39).

13. (Currently Amended) A system according to claim 12, wherein the container (39) includes at least ~~two~~ first and second compartments having contents (42, 44), ~~and wherein the contents of the first and second compartments being of these compartments (42, 44) are to be~~ mixed before the fluid leaves the container (39).

14. (Currently Amended) A system according to claim 12 ~~or 13~~, wherein said container (39) is a flexible fluid bag.

15. (Currently Amended) A system according to ~~any of the claims 12-14~~ claim 12, wherein the concentration of said substance in said container ~~(39)~~ is at least 100 g/l.

16. (Currently Amended) A method ~~of~~ for carrying out a measurement of the concentration of an optically active substance in a dialysis and/or infusion fluid, ~~which fluid is arranged to be fed to and/or through an apparatus for hemodialysis, hemodiafiltration, hemofiltration or peritoneal dialysis, the method comprising the following steps of:~~

feeding a fluid to and/or through an apparatus for hemodialysis, hemodiafiltration, hemofiltration or peritoneal dialysis;

providing a ~~polarised~~ polarized beam of light~~[[.]]~~;

transmitting said ~~polarised~~ polarized beam of light through said fluid~~[[.]]~~; and

detecting the influence ~~that~~ of said substance ~~in the fluid has~~ on the ~~polarised~~ polarized beam of light which is passed through the fluid ~~such that an indication of to measure the concentration of said substance in the fluid is obtained.~~

17. (Original) A method according to claim 16, wherein said substance is a sugar.

18. (Original) A method according to claim 17, wherein said sugar is glucose.

19. (Currently Amended) A method according to ~~any of the claims 16-18~~ claim 16, wherein said fluid is a concentrate that is to be mixed with other substances and/or diluted in said apparatus, ~~and wherein the said concentration measurement is carried out in on said fluid being made before the fluid, through being is mixed with other substances and/or through being diluted, has obtained its final form in said apparatus.~~

20. (Currently Amended) A method according to ~~any of the claims 16-19~~  
claim 16, wherein said fluid is fed to said apparatus from a container (39).

21. (Currently Amended) A method according to claim 20, wherein said  
container (39) includes at least ~~two~~ first and second compartments having contents (42,  
44), ~~and wherein the contents of the first and second compartments being of these~~  
~~compartments (42, 44) are to be~~ mixed before the fluid leaves the container (39).

22. (Currently Amended) A method according to claim 20 or 21, wherein said  
container (39) is a flexible fluid bag.

23. (Currently Amended) A method according to ~~any of the claims 16-22~~  
claim 16, wherein the concentration of said substance in said fluid at the position where  
the measurement is carried out is at least 100 g/l.

24. (Currently Amended) A method according to ~~any of the claims 16-23~~  
claim 16, ~~wherein means (38) are provided to generate~~ further comprising the step of  
generating a warning signal if the measured concentration of said substance in said  
fluid does not ~~fulfil~~ fulfill a predetermined requirement.

25. (Currently Amended) A method according to ~~any of the claims 16-24~~  
claim 16, wherein said feeding step further comprises the sub-step of:

~~where said fluid is fed~~ feeding said fluid through an at least partly transparent  
conduit (50) in said apparatus or at an inlet (32) to said apparatus, wherein said  
polarized beam of light is transmitted through said fluid ~~measurement is carried out by~~  
~~passing said polarised beam of light through said fluid~~ at said at least partly transparent  
conduit (50).

26. (Currently Amended) A method according to ~~any of the claims 16-25~~  
claim 16, wherein said ~~polarised~~ polarized beam of light is a plane-~~polarised~~polarized  
beam of light.

27. (Currently Amended) A method according to claim 26, wherein the step of  
detecting ~~detection~~ of the influence ~~that~~ of said substance ~~in the fluid has~~ on the  
~~polarised~~ polarized beam of light ~~is done by~~ further comprises measuring an entity ~~that~~  
~~indicates with which~~ indicating the angle at which the plane of ~~polarisation~~ polarization  
of said ~~polarised~~ polarized beam of light has rotated when said ~~polarised~~ polarized  
beam of light has passed through the fluid.